CLAIMS

We claim:

1. A method of increasing insulin sensitivity in a human or non-human subject, the method comprising the step of:

reducing stearoyl-CoA desaturase 1 (SCD1) activity in the human or non-human subject sufficiently to increase insulin sensitivity.

2. The method of claim 1, wherein reducing SCD1 activity is accomplished by reducing SCD1 protein level.

3. The method of claim 2, wherein reducing SCD1 protein level is accomplished by inhibiting the transcription of a SCD1 gene.

4. The method of claim 3, wherein inhibiting the transcription of the SCD1 gene is accomplished by administering an agent selected from the group consisting of a thiazoladinedione compound and a polysaturated fatty acid to the subject.

5. The method of claim 4, wherein the thiazoladinedione compound is selected from the group consisting of BRL49653, Pioglitazone, Ciglitazone, Englitazone and Troglitazone.

6. The method of claim 4, wherein the polyunsaturated fatty acid is selected from the group consisting of dodecahexaenoic acid and arachidonic acid.

7. The method of claim 1, wherein the SCD1 protein level is reduced by administering an antisense oligonucleotide for SCD1 into the human or non-human subject.

8. The method of claim 1, wherein reducing SCD1 activity is accomplished by inhibiting the enzymatic activity of SCD1.

9. The method of claim 8, wherein the SCD1 enzymatic activity is inhibited by administering an SCD1 inhibitor into the human or non-human subject.

10. The method of claim 9, wherein the SCD1 inhibitor is an SCD1 antibody.

11. The method of claim 8, wherein the inhibitor inhibits the SCD protein by inhibiting a protein selected from the group consisting of a cytochrome b_5 protein, a NADH-cytochrome b_5 reductase protein, and a terminal cyanide-sensitive desaturase protein.

12. A method for identifying an agent that can increase insulin sensitivity in a human or non-human subject, the method comprising the steps of:

providing a preparation that contains SCD1 activity;

contacting the preparation with a test agent;

measuring SCD1 activity and comparing the activity to that of a control preparation that is not exposed to the test agent, wherein a lower than control activity indicates that the agent can increase insulin sensitivity in a human or non-human subject.

13. A method for identifying an agent that can increase insulin sensitivity in a human or non-human subject, the method comprising the steps of:

administering a test agent to the human or non-human subject; and

determining the effect of the agent on the SCD1 activity in the subject, wherein a reduction in SCD1 activity caused by the agent indicates that the agent can increase insulin sensitivity in the subject.